# Global Auroras Caused by Interplanetary Shocks

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Interplanetary shocks/pressure pulses transfer energy directly into the dayside magnetosphere and can trigger substorms on the nightside. The timing of these two types of events will be discussed. Two types of dayside energy transfer mechanisms have been proposed: 1) betatron acceleration of preexisting plasma followed by electron and proton loss cone instabilities, i.e., growth of plasma waves and scattering of particles into the loss cone; 2) creation of near-ionospheric potential drops and direct particle energization. Several types of nightside substorm triggering mechanisms will be discussed: 1) magnetic reconnection and 2) current disruption.